FINDING OF NO SIGNIFICANT IMPACT
FOR THE CITY OF LAUREL
2008/09 WATER SYSTEM IMPROVEMENTS PROJECT

TO: ALL INTERESTED PERSONS

Date: November 26, 2008
Action: Constructing water system improvements for the city of Laurel
Location of Project: Laurel, Montana
DWSRF Funding: $1,942,710
Total Project Cost: $3,167,710

An environmental review has been conducted by the Montana Department of Environmental Quality for the proposed improvements to the water system in Laurel. The purpose of the project is to make improvements to the city's water system that are needed to ensure an adequate supply of water necessary to protect public health.

The affected environment will primarily be in the vicinity of the water treatment plant and within city street right-of-way. The human environment affected will include Laurel and the surrounding area. Based on the information provided in the references below, the project is not expected to have any significant adverse impacts upon terrestrial and aquatic life or habitat, including endangered species, water quality or quantity, air quality, geological features, cultural or historical features, or social quality.

This project will be funded in part with a low-interest loan from the Montana Drinking Water State Revolving Fund (DWSRF) Program, administered by the Montana Department of Environmental Quality and the Montana Department of Natural Resources and Conservation.

The Department of Environmental Quality utilized the following references in completing its environmental review of this project:

- City of Laurel, Montana, Water Facilities Plan, August 2007, prepared by Morrison-Maierle, Inc., Billings, Montana.
- Water System Preliminary Engineering Report, 2008 Amendment, April 2008, prepared by Great West Engineering, Billings, Montana.
- Department of Natural Resources and Conservation Application for the City of Laurel, Montana, May 2008, prepared by Great West Engineering, Billings, Montana
- Drinking Water State Revolving Fund Application for the City of Laurel, Montana, October 2008, prepared by Great West Engineering, Billings, Montana.

In addition to these references, letters were sent to the Montana Department of Fish, Wildlife and Parks, the Montana Department of Natural Resources and Conservation, the Montana Department of Environmental Quality, the Montana Department of

Transportation, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service and the Montana State Historic Preservation Office. Responses were received from the U.S. Army Corps of Engineers, the Montana Department of Fish, Wildlife and Parks, the U.S. Fish and Wildlife Service and the Montana State Historic Preservation Office. These references are available for review upon request by contacting:

Gary J. Wiens, P.E.
Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901
Phone: (406) 444-7838
Email: gwiens@mt.gov

Mary Embleton
Clerk/Treasurer
City of Laurel
P.O. Box 10
Laurel, Montana 59044
membleton@laurel.mt.gov

Comments on this finding or on the environmental assessment may be submitted to the Department of Environmental Quality at the above address. Comments must be postmarked no later than January 15, 2009. After evaluating all substantive comments received, the department will revise the environmental assessment or determine if an environmental impact statement is necessary. Otherwise, this finding of no significant impact will stand if no substantive comments are received during the comment period or if substantive comments are received and evaluated and the environmental impacts are still determined to be non-significant.

Signed,

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Todd Teegarden, Chief
Technical & Financial Assistance Bureau

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CITY OF LAUREL
2008/09 WATER SYSTEM IMPROVEMENTS PROJECT

ENVIRONMENTAL ASSESSMENT

I. COVER SHEET

A. PROJECT IDENTIFICATION

Applicant:	City of Laurel
Address:	P.O. Box 10
	Laurel, MT 59044
Project Number:	Not yet assigned

B. CONTACT PERSON

Name:	Kenneth E. Olson, Jr., Mayor
	City of Laurel
Address:	P.O. Box 10
	Laurel, MT 59044
Telephone:	(406) 628-0658

C. ABSTRACT

The Laurel water system provides potable water to a population of approximately 6806. Source water is pumped from the Yellowstone River and treated at an aging conventional surface water treatment facility constructed in the 1950s. Although some modifications have been made over the years, many of the components of the treatment plant, such as the flocculation and sedimentation basins, filters and two high service pumps, are more than fifty years old. In addition, the water distribution system includes small diameter, 100-year-old cast iron and rigid asbestos-cement pipe, both prone to failure and leakage. The proposed project includes the installation of a flash mixer to enhance chemical mixing, rebuilding the two filters, repairing the pipeline from the sedimentation basin to the filters and providing a third low lift pump, variable frequency drives for the two high service pumps, a dual-speed hoist for handling chlorine cylinders and other chlorination room improvements. The priorities for distribution system improvements will be determined based on the results of the city's leak detection program.

The proposed water system improvements will enable the city to maintain compliance with the Safe Drinking Water Act and will ensure that drinking water meeting state and federal regulations will continue to be safely and reliably provided to all consumers.

The project will be funded in part by a Drinking Water State Revolving Fund loan. Environmentally sensitive characteristics such as wetlands, floodplains and threatened or endangered species are not expected to be adversely impacted as a consequence of the proposed project. No significant long-term environmental impacts were identified during the preparation of this document.

D. COMMENT PERIOD

Thirty calendar days.

II. PURPOSE AND NEED FOR ACTION

A. EXISTING FACILITIES

In the original water treatment plant, water from the Yellowstone River was settled in concrete sedimentation basins and pumped into the distribution system. Chemical injection and filtration facilities were added in 1955. Although other improvements have been made since then, the filters and sedimentation basins have not been substantially modified since their original construction. The plant also lacks chemical mixing equipment, which limits treatment effectiveness.

Although modified many times since, much of the city's original water distribution was constructed prior to 1900. Facilities include five high service pumps at the treatment plant, two 18-inch transmission mains, a pipe network, a storage reservoir and a small booster station. Some of the water mains are composed of aged cast iron or rigid asbestos cement pipe and are subject to leakage and failure.

B. PROPOSED PROJECT

The proposed project includes the following components:

1. Install a flash mixer to enhance chemical mixing,
2. Rehabilitate the two dual-media filters,
3. Repair the pipeline from the sedimentation basins to the filters,
4. Replace the two low lift pumps and install a third,
5. Replace the existing high service pump motors and install two new pumps, providing variable speed drives,
6. Provide a dual-speed hoist for moving chlorine cylinders,
7. Make safety improvements to the chlorination room,
8. Provide a permanent generator and install fencing at the booster pump station,
9. Install fencing around the sedimentation basins, and
10. Replace the highest priority water mains, based on results of the city's leak detection program.

By constructing these improvements, the city will ensure that an adequate supply

of safe water will continue to be delivered to the users of the system and public health and safety with respect to the water supply will be ensured.

III. ALTERNATIVES INCLUDING THE PROPOSED ACTION

A. STORAGE ALTERNATIVES

Two alternatives for addressing the city's surge control needs were considered:

1. NO ACTION – This alternative is considered unacceptable since it would perpetuate increasingly unsafe conditions within the water system. Failure to replace aging and worn pumps, rehabilitate the filters, make improvements to the chlorination system, provide a reliable generator at the booster station and replace mains susceptible to breaks and leakage could result in events that threaten the health and safety of water system operators and the public.

2. SELECTED ALTERNATIVE – This alternative, the proposed action, was selected from a number of options identified in the city's August 2007 Water Facilities Plan and modified in the April 2008 Water System Preliminary Engineering Report update. Since many of the highest priority actions involved an assessment of risks to operator safety and public health, they were not easily evaluated in economic terms. Instead, engineering judgment and operator input were used to identify the highest priority tasks. Where competing materials or equipment were involved, it was possible to make economic comparisons.

B. COST/BENEFIT COMPARISONS

Table 1 provides a cost comparison of alternative approaches to surge control within the distribution system. Although the control valves had the lowest cost, additional evaluation was carried out to determine non-monetary benefits.

Table 1. Alternative Evaluation

Alternative	20-year Life Cycle Cost
Four Variable Frequency Drives	$390,090
Two Control Valves	$116,604

Further analysis was performed by ranking the alternatives under the following criteria: life cycle cost, environmental impact, system reliability, public and operator opinion and performance. The variable frequency drives received the best rating since they offer much better control of water hammer. Based on the results of both evaluations, variable frequency drives were chosen as the preferred method of surge control.

C. TOTAL ESTIMATED COSTS

The estimated total cost of the proposed project is $3,167,710, based on construction of the preferred alternative. The city anticipates receiving a Drinking Water State Revolving Fund loan of $1,942,710. In addition, the city has applied for a Treasure State Endowment Program grant of $625,000 from the Department of Commerce and an RRGL program grant of $100,000 from the Department of Natural Resources and Conservation. The remaining $500,000 would be provided by the city. Average monthly water rates are expected to increase from a current level of $36.97 to $41.70 to adequately fund these improvements to the city's water system.

IV. AFFECTED ENVIRONMENT

A. PLANNING AREA

The city of Laurel is located at the west boundary of Yellowstone County, sixteen miles southwest of Billings, along Interstate 90. According to the 2000 census, the city had 6255 people and 2647 housing units, 2529 of which were occupied. The median household income in the city was $32,679 and the median income for a family was $41,190.

Construction of the proposed project is expected to begin early in 2009 and extend over two construction seasons, finishing in late 2010. The filter rehabilitation must be completed between approximately November 1 and March 15 so that both filters are available during the higher demand season.

B. FLOW PROJECTIONS

From 2000 through 2006, the city's water plant produced an average of 2.12 million gallons per day, with a peak daily demand of 4.55 million gallons per day in July 2003. By the year 2022, the average daily demand is projected to be between 3.0 and 5.3 million gallons per day and the maximum daily demand between 6.1 and 10.8 million gallons per day. The present upper limit of water treatment plant capacity with 24-hour operation of both filters is 4.6 million gallons per day. The firm capacity (with one of the two filters out of service) is half that number, or 2.3 million gallons per day, which is well below current peak day demands. By rehabilitating the filters and providing a new low lift pump, it

should be possible to approximately double the filtration rate, with a commensurate doubling of the firm water treatment capacity of the plant.

C. NATURAL FEATURES

Laurel is located along the Yellowstone River and draws from the river for its municipal water supply. The city's wastewater treatment plant discharge is 2000 feet downstream of the water plant. Topography of the planning area consists of gently sloping flood plains and alluvial fans rising to local terraces. Typical soils are loams, with some silt, clay or sand present. Native vegetation includes grasses, sagebrush, rabbitbrush, cottonwoods, wild roses, buckbrush, willows, cattails and sedges.

The climate of Laurel is characteristic of the semiarid high plains of south-central Montana. Maximum precipitation occurs in May and June with another peak in September and October. During the irrigation season, the water table rises to a depth of 48 to 60 inches in many areas of the city.

None of the project area lies within the 100-year floodplain, as defined by the Federal Emergency Management Agency maps.

The U.S. Fish & Wildlife Service identifies seven species in Montana as endangered and seven species as threatened. The endangered animal species include the whooping crane, Eskimo curlew, black-footed ferret, pallid sturgeon, white sturgeon, least tern and gray wolf. Threatened animal species in the state include the grizzly bear, Canada lynx, piping plover and bull trout. Threatened plant species are the Spalding's catch-fly, water howellia and Ute Ladies'-tresses. Additionally, three animal species, the warm springs beetle, yellow-billed cuckoo and arctic grayling, and one plant species, the slender moonwort, are listed as candidate species for a threatened or endangered designation.

All construction will take place on the site of the existing water treatment plant or within public street right-of-way. No native vegetation is expected to be disturbed by the construction. Similarly, the construction sites do not provide prime habitat for wildlife, and as a result, no impacts on wildlife are anticipated.

V. ENVIRONMENTAL IMPACTS OF PROPOSED PROJECT

A. DIRECT AND INDIRECT ENVIRONMENTAL IMPACTS

1. Housing and Commercial Development – Developed land use within the city limits is a mix of residential, commercial and industrial. Although intended to accommodate anticipated growth, the proposed improvements are not expected to have an impact on housing and commercial development.

2. Future Land Use – No adverse impacts to land use are expected from the proposed project.

3. Floodplains and Wetlands – None of the project area lies within the 100-year floodplain. No wetlands have been identified on the proposed construction sites.

4. Cultural Resources – The construction sites are previously-disturbed land. The city's consultant solicited comments from Stan Wilmoth of the State Historic Preservation Office in a letter dated November 27, 2006, and Mr. Wilmoth responded, "the State Historic Preservation Office does not have any comments regarding the infrastructure improvements proposed in the Laurel, Montana Water Facilities Plan."

5. Fish and Wildlife – No impacts on biological resources in the area are anticipated by the proposed project.

6. Water Quality – Impacts on water quality are expected to be minor and short-term. Short-term impacts on surface and groundwater quality can be controlled through proper construction practices.

7. Air Quality - Short-term negative impacts on air quality may occur from heavy equipment, dust and exhaust fumes during project construction. Construction practices and dust abatement measures will be implemented during construction to control dust, thus minimizing this problem.

8. Public Health – The proposed project is not expected to have adverse impacts on public health, and should instead enhance public health by upgrading water treatment facilities.

9. Energy - During construction of the proposed project, additional energy will be consumed, causing a direct short-term impact on this resource.

10. Noise - Short-term impacts from increased noise levels may occur during construction of the proposed project improvements. Construction activities are anticipated to occur seasonally for two years during daylight hours only.

B. UNAVOIDABLE ADVERSE IMPACTS

Short-term construction-related impacts, such as noise, dust and traffic disruption, will occur but can be minimized through proper construction management. Energy consumption during construction cannot be avoided. No permanent direct, indirect or cumulative adverse impacts are anticipated as a result of the proposed action.

VI. PUBLIC PARTICIPATION

Several public meetings were held by the city to consider the proposed work on the water system. On July 17, 2007, the Water Facilities Plan was presented and reviewed at a public hearing, and on August 7, 2007, the city council voted to accept the plan. On April 29, 2008, a public hearing was held to present the recommendations of the preliminary engineering study and discuss the cost of the anticipated work and the associated impacts on water rates. No substantive objections were raised during these meetings.

VII. REFERENCE DOCUMENTS

The following documents were used in the environmental review of this project and are considered part of the project file:

A. City of Laurel, Montana, Water Facilities Plan, August 2007, prepared by Morrison-Maierle, Inc., Billings, Montana.

B. Water System Preliminary Engineering Report, 2008 Amendment, April 2008, prepared by Great West Engineering, Billings, Montana.

C. Department of Natural Resources and Conservation Application for the City of Laurel, Montana, May 2008, prepared by Great West Engineering, Billings, Montana

D. Drinking Water State Revolving Fund Application for the City of Laurel, Montana, October 2008, prepared by Great West Engineering, Billings, Montana.

VIII. AGENCIES CONSULTED

The following agencies were contacted regarding the proposed construction of this project:

A. The Montana Department of Fish, Wildlife and Parks was asked for comments on the proposed project. In a response dated January 12, 2007, Ray Mule of the Wildlife Division and Jim Darling of the Fisheries Division both indicated they had no specific comments on the proposed alternative.

B. The U.S. Fish and Wildlife Service was asked in a November 27, 2006, letter by the city's consultant for comments on the proposed project. Lou Hanebury of the Service reviewed Chapter 9 of the facilities plan and concluded, "no federally-listed species or designated critical habitat occurs within the project area."

C. The U.S. Army Corps of Engineers reviewed the proposed project and commented in a February 5, 2007, letter. The Corps of Engineers is responsible for administering Section 404 of the Clean Water Act, which regulates the

excavation or placement of dredged or fill material below the ordinary high water mark of the nation's rivers, streams, lakes or in wetlands. Larry D. Janis of the Corps of Engineers wrote that a Section 404 permit would be required if the construction activities involve any work in the waters of the United States.

D. The Montana Historical Society's Historic Preservation Office reviewed the project and responded that the State Historic Preservation Office "does not have any comments regarding the infrastructure improvements proposed in the Laurel, Montana Water Facilities Plan."

E. The Montana Department of Natural Resource and Conservation reviewed the proposed project and responded that the department "does not have any comments regarding the infrastructure improvements proposed in the Laurel, Montana Water Facilities Plan."

IX. AGENCY ACTION, APPLICABLE REGULATIONS AND PERMITTING AUTHORITIES

The city must have approval from the Department of Environmental Quality to construct and operate the water system improvements outlined in this environmental assessment. In addition, the proposed action may require other permits that must be obtained by the city's construction contractor, as described in the project manual approved by the department. The contractor will be required to submit the necessary documentation, including a notice of intent and storm water pollution prevention plan, to the department's storm water permitting program prior to beginning construction.

X. RECOMMENDATION FOR FURTHER ENVIRONMENTAL ANALYSIS

❑ EIS ❑ More Detailed EA ❑ No Further Analysis

EA prepared by:

_____ _____

Name Date

EA reviewed by:

_____ _____

Name Date

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